

Cumulative Review 1

Name _____ Period _____ Date _____

Factor each polynomial. Use polynomial identities when necessary. Show work!

1. $x^2 + 3x - 10$

2. $3x^2 + x - 10$

3. $4x^6 - 9y^2$

4. $x^3 - 64$

5. $u^3 + 9u^2v + 27uv^2 + 27v^3$

Simplify each expression. Use polynomial identities when necessary. Show work!

6. $(2r + 5)(r + 8)$

7. $(x + 5)(x^2 - 5x + 25)$

8. $(x + 2i)(x - 2i)$

9. $2x(x^2 - 4x + 1) - (x^3 + x - 5)$

10. Determine the number of zeros for the given polynomial: $f(x) = x^3 - 2x^2 + 6x^4 - 7$.

11. Use the remainder theorem to determine whether $x - 5$ is a factor of: $f(x) = x^3 - 2x^2 - 17x + 10$.